STATE OF WASHINGTON
WASHINGTON STATE BOARD OF HEALTH
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May 12, 2004

TO: Washington State Board of Health Members

FROM: Tom Locke, WSBOH Vice Chair

RE: **WEST NILE VIRUS PREPAREDNESS UPDATE**

Summary

West Nile Virus (WNV), a virus transmitted to humans by infected mosquitoes, has been present in the United States since 1999. Each year increasing numbers of infected mosquitoes, birds, horses, and humans have been reported in states throughout the country. The Washington State Department of Health (DOH) collaborated with local health jurisdictions (LHJ) and other interested parties to produce and implement the state's *Mosquito-borne Disease Response Plan,* which has guided efforts to prepare for and respond to WNV in Washington. The state plan establishes specific roles for state and local governments and includes guidelines for a phased response, including surveillance, education, and mosquito and disease control. Since publication of the plan, numerous state and local activities have focused on implementing it and on improving public health tools and communication between and among state agencies, LHJs, and the public.

No human cases of WNV were acquired within the state in previous years, however the virus was found in two birds and two horses in 2002. No bird, horse, or human infections were reported in Washington in 2003. The WNV season has commenced for 2004; as of April 21 eight states had reported WNV infection in birds or other animals and one state had reported one human case.

The Board last heard about state preparedness and WNV-related activities in April 2003. In an effort to keep members current on these issues and to address specific questions regarding Mosquito Control Districts (MCD) and the efficacy of pesticide application in preventing human infections, I have asked two representatives from DOH, Maryanne Guichard, Director, Office of Environmental Health and Safety, and Tom Gibbs, Public Health Advisor, Zoonotic Disease Program, to address the Board on these issues.

Board action recommended

No action recommended at this time.

Background

WNV is primarily transmitted to humans through the bite of an infected mosquito. Approximately 80% of people who become infected with WNV have no symptoms. Around 20% have mild

symptoms, such as fever, headache, and body aches (knows as "West Nile fever"). On average, one out of every 150 WNV infections result in a severe and sometimes fatal inflammation of the brain known as West Nile encephalitis. The risk of severe infection is higher among people who are 50 and older. Medical research on the aftermath of WNV infection is ongoing, with studies suggesting that persistent neurological damage is common following WNV encephalitis and that West Nile fever may also have long-term health effects.

Since 1999, WNV has spread across the United States affecting increasing numbers of birds, horses, and humans each year. Last year the CDC received reports of 9,858 human WNV infections including 262 fatalities from 45 states and the District of Columbia. The number of human cases increased from 4,156 cases in 2002. Washington did not report any human cases of WNV in previous years, however the virus was found in two birds and two horses in 2002. There were no reported bird, horse, or human infections in Washington in 2003. As of April 14, 2004 eight states had reported WNV infection in birds or other animals and one state had reported one human case.

DOH WNV-related activities during 2003 included:

- Publishing the *West Nile Virus Newsletter*, a periodic on-line resource (http://www.doh.wa.gov/ehp/ts/Zoo/WNV/Newsletters.html);
- Building laboratory capacity and testing specimens for WNV infection;
- Training local public health officials in mosquito surveillance and distributing equipment necessary to conduct these activities;
- Producing and distributing educational materials for the public;
- Mailing clinical information about WNV to licensed health care providers;
- Initiating and coordinating a blanket National Pollution Discharge Elimination System (NPDES) permit for the use of pesticides for mosquito control; and
- Publishing an updated *Mosquito-Borne Disease Response Plan* in December 2003 (http://www.doh.wa.gov/ehp/ts/Zoo/WNV/Newsletters.html).

LHJs also conducted many WNV-related activities during 2003 such as public education campaigns, establishing WNV hotlines, collecting dead birds, and conducting mosquito surveillance. Highlights of specific local public health department activities can be found in the *West Nile Virus Newsletter* (http://www.doh.wa.gov/ehp/ts/Zoo/WNV/Newsletters.html).

Mosquito Control Districts are valuable partners for some LHJs. They provide assistance with mosquito surveillance, public education, and mosquito abatement among other activities. Fifteen MCDs operate in 13 out of 39 counties in Washington. The *Mosquito-Borne Disease Response Plan* advises local public health to educate local governing bodies on the establishment of MCDs in areas where they do not exist. Two new MCDs have been established in the previous two years. Today's discussion will include information about activities related to establishing new MCDs.

Comprehensive integrated mosquito management is considered a critical component of preventing mosquito-borne diseases in humans. The application of pesticides is one method of mosquito control. Pesticides can be used to target mosquito larvae (larvicide) or adult mosquitoes (adulticide). Some anecdotal evidence suggests that areas that receive intensive mosquito larviciding efforts experience fewer human cases of WNV than areas that receive less intensive or no larviciding efforts. Articles on the Cook County, Illinois experience with mosquito control and WNV infection in humans are attached.

Attachments